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THE JAMES KNIGHTS CO.

MANUFACTURERS AND DESIGNERS

JK PRODUCTS

PHONE 2141
TELETYPE 2387
SANDWICH, ILLINOIS

March 30, 1956

We are enclosing two copies of our Bulletin 19A describing the G-7 and G-7J crystals. Also enclosed is information on the type G-12A Precision Glasline Crystal, together with our price list.

Prices for the G-7 and G-7J crystals depend greatly upon the frequency and individual requirements. We solicit your inquiries in regard to any particular application you may have, either in the present or future.

Very truly yours,

THE JAMES KNIGHTS COMPANY

W R Doede

WRD:dee
Encl.

W. R. Doede
Sales Department

This document contains information affecting the national defense of the United States within the meaning of the espionage laws, Title 18, U.S.C., Sections 793 and 794. Its transmission or the revelation of its contents in any manner to an unauthorized person is prohibited by law.

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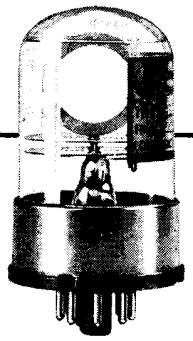
JK GLASLINE crystal sets stability record* of

1 PART IN 100,000,000

opening new concepts of stabilized frequency control

*In test by a leading U.S. Government Laboratory using a G-12A 1000 kc crystal.

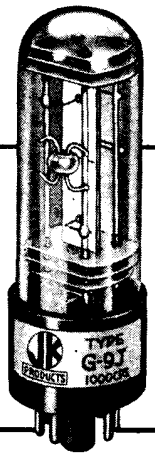
NOT A "LABORATORY" CRYSTAL: This record was made by the reproducible type JK G-12A quartz crystal illustrated, using a precision oven, over a two week continuous test period. This stability, corresponding to a rate of change of less than one second in more than three years, challenges existing methods of measurement. Presented here are several crystal units from the ultra-stable JK GLASLINE series. Write us for additional information.



JK GLASLINE G-12A

Frequency Range: 540 to 1600 kc
Stability: ±15 cycles or better, 0 to 50°C

RECOMMENDED for extreme precision frequency applications in the 1 mc region. Also F.C.C. Approved for broadcast use without temperature control.



JK GLASLINE G-9J

Frequency Range: 1 to 10 kc
Frequency Tolerance over range of −40 to +70°C:
Without circuit adjustment: ±.03%
With circuit adjustment: ±.02%

RECOMMENDED as a time base for electronic instrumentation, pulse time modulation systems, radar, sonar, computers, etc.

JK GLASLINE G-9

Frequency range: 4 to 500 kc and 1.2 to 5 mc

RECOMMENDED for frequency standards and master oscillators in the communications and wired carrier spectra. Also as time base for color television transmitters and digital frequency measuring systems.

"Crystals for the Critical"

The James Knights Company
Sandwich, Illinois

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PRODUCTS

This document is part of an integrated file. If separated from the file it must be subjected to additional systematic review.

This ad is appearing in the July 1954 issues of *ELECTRONICS, PROCEEDINGS OF I.R.E.,* and *TELE-TECH,* and also Aug. 1954 *Q.S.T.*

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$10^{-2} = .01\%$

$1 \times 10^{-2}\ \%$

$\frac{10^{-2}}{10^{4}}$

INDUSTRIAL AND COMMERCIAL PRICE LIST

Applicable to Our General Catalog

JK Stabilized Crystals

Price List No. 165 ——— Effective March 15, 1955

Prices subject to change without notice

Prices shown are representative

Net quotations will be made based upon quantity and specification

TYPE	FREQUENCY RANGE	PRICE
JKO2	Oven only (6.3, 12.6, or 28V)	$ 12.50
JKO2T	Oven only (6.3, 12.6, or 28V)	18.00
JKO2 or JKO2T	Oven with appropriate Crystal — Price on Request	
JKO3	Oven only	12.50
JKO3	Oven with appropriate Crystal — Price on Request	
JK5	Oven only	32.50
JK5	Oven with appropriate Crystal	45.00
JK5T	Oven only (with Thermometer)	38.50
JK5T	Oven with appropriate Crystal (with Thermometer)	51.00
JKO7E	Oven only	49.50
JKO7E	Oven with appropriate Crystal — Price on Request	
JK8	Oven only	32.50
JK8	Oven with appropriate Crystal	45.00
JK8T	Oven only (with Thermometer)	38.50
JK8T	Oven with appropriate Crystal (with Thermometer)	51.00
JKO9	Oven only (6.3, 12.6, 24-28V)	Price upon request
JKO9T	Oven only (6.3, 12.6, 24-28V)	Price upon request
JKO9 or JKO9T	Oven with appropriate crystal	Price upon request
JK57M	Oven only	37.50
JK57M	Oven with Broadcast Crystal	50.00
JK57MT	Oven only (with Thermometer)	43.50
JK57MT	Oven with Broadcast Crystal (with Thermometer)	56.00
JK87M	Oven only	37.50
JK87M	Oven with Broadcast Crystal	50.00
JK87MT	Oven only (with Thermometer)	43.50
JK87MT	Oven with Broadcast Crystal (with Thermometer)	56.00
H2	1800 kc to 16000 kc (2)	14.95
G3	10 mc to 100 mc (2)	14.95
H4	1800 kc to 16000 kc (2)	14.95

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TYPE	FREQUENCY RANGE		PRICE
H6	100 kc to 2000 kc	(1)	24.95
H7	3000 kc to 16000 kc	(2)	14.95
H8	3000 kc to 16000 kc	(2)	14.95
T8	10 kc to 20 kc	(3)	39.50
T8	20 kc to 70 kc	(3)	29.50
T8	70 kc to 85 kc	(3)	19.95
G9	4 kc to 10 kc	(3)	59.50
G9	10 kc to 20 kc	(3)	39.50
G9	20 kc to 60 kc	(3)	29.50
G9	60 kc to 90 kc	(3)	24.50
G9	90 kc to 200 kc	(3)	19.95
G9 (GT)	180 kc to 300 kc	(3)	49.50
G9A	1000 kc to 1500 kc	(3)	49.50
G9A	1500 kc to 5000 kc	(3)	29.95
G9J	1.0 kc to 2.5 kc	(3)	150.00
G9J	2.5 kc to 4.0 kc	(3)	135.00
G9J	4.0 kc to 6.6 kc	(3)	100.00
G9J	6.6 kc to 10 kc	(3)	89.50
G12A	550 kc to 999.9 kc	(3)	79.95
G12A	1000 kc to 1500 kc	(3) 69.50	150.00
G12 (GT)	99 kc to 130 kc	(3)	150.00
G12 (GT)	130 kc to 180 kc	(3)	79.50
G12	Ovenless Broadcast 550 kc to 1600 kc	(3)	99.00
H9	85 kc to 300 kc	(1)	14.95
H9	100 kc	(1)	7.95
T9	85 kc to 300 kc	(3)	15.95
H10	2000 kc to 10000 kc	(3)	15.95
H11	With 1 Crystal — 100 kc to 10000 kc	(2)	15.95
H11	With 2 Crystals — 600 kc to 10000 kc	(2)	19.95
H11A	200 kc to 600 kc	(1)	29.95
H12 (or H-122)	350 kc to 600 kc	(1)	24.95
H12 (or H-122)	600 kc to 16000 kc	(1)	14.95
H13	175 kc to 500 kc	(1)	14.95
H14	1800 kc to 10000 kc	(2)	14.95
H16	90 kc to 300 kc	(1)	14.95
H17	200 kc to 500 kc	(1)	14.95
H17	1 mc to 50 mc	(2)	14.95
H17	50 mc to 75 mc	(2)	19.95
H17L	200 kc to 500 kc	(1)	14.95
H17L	2 mc to 50 mc	(2)	14.95
H17T	16 kc to 100 kc	(3)	19.95
H17T	100 kc to 250 kc	(3)	14.95
H17W	200 kc to 500 kc	(1)	14.95
H17W	2 mc to 50 mc	(2)	14.95
H17W	50 mc to 75 mc	(2)	19.95
IF17 or IF17W	455 kc + or − 3 kc		3.95
IF17 or IF17W	Other Frequencies		Price on Request
H18 or H18-5	80 kc to 2000 kc	(2)	19.95
H18T	3 kc to 10 kc	(3)	79.50

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TYPE	FREQUENCY RANGE		PRICE
H18T	10 kc to 20 kc	(3)	49.50
H18T	20 kc to 60 kc	(3)	39.50
H18T	60 kc to 80 kc	(3)	29.50
H19	40 kc to 50 kc	(2)	49.50
H20C	2000 kc to 5000 kc	(1)	19.95
H21V	900 kc to 3000 kc	(2)	29.95
H22	50 kc to 100 kc	(2)	39.50
H22	GT Crystals 100 kc to 150 kc	(3)	79.50
H24	350 kc to 600 kc	(1)	24.95
H24	600 kc to 3000 kc	(1)	14.95
Ultrasonic	Transducer Crystals		Price on Request

AIRLINE, AIRCRAFT, AND MARINE CRYSTALS

H2	Aircraft and Marine Frequencies 2 mc to 7 mc	4.95
H4	Aircraft and Marine Frequencies 2 mc to 7 mc	4.95
H7	C.A.P. and Aircraft Frequencies 3 mc to 7 mc	4.95
H8	Aircraft Frequencies 3 mc to 7 mc	4.95
H10	Marine Frequencies 2 mc to 7 mc	9.95
H12	Aircraft and Marine Frequencies 2 mc to 7 mc	4.95
H122	Aircraft and Marine Frequencies 2 mc to 7 mc	5.95
H14	Aircraft and Marine Frequencies 3 mc to 7 mc	5.95
H17	Aircraft Frequencies — 3 mc to 32 mc	6.95
H17W	Aircraft Frequencies — 3 mc to 32 mc	6.95

STOCK CRYSTALS FOR THE AMATEUR

		Amateur Net
H23, H43, or H73	1800 kc to 3000 kc, + or − 2 kc	2.95
H23, H43, or H73	3000 kc to 9000 kc, + or − 5 kc	2.95
H23, H43, or H73	9000 kc to 15000 kc, + or − 10 kc	3.95
H173	1000 kc	7.95
H173	1800 kc to 3000 kc, + or − 2 kc	4.95
H173	3000 kc to 9000 kc, + or − 5 kc	4.95
H173	9000 kc to 21 mc, + or − 10 kc	4.95
H173	21 mc to 40 mc, + or − 15 kc	4.95
H173	40 mc to 54 mc, + or − 25 kc	5.95
H173	54 mc to 75 mc, + or − 100 kc	7.95
T93	1000 kc	7.50
T93	100 kc	7.50
H93	100 kc	6.95
G93	100 kc	8.95

SPECIAL CRYSTALS FOR THE AMATEUR

TYPE	FREQUENCY RANGE	PRICE
H23, H43, or H73	Any Frequency between 1800 kc and 20 mc .03% tolerance	4.80
H173 or H173L	Any Frequency between 1800 kc and 75 mc .03% tolerance	7.95

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TELEVISION TEST CRYSTALS

H7	4500 kc only	3.95
H7	3 mc to 18 mc	4.80
H17	4500 kc only	4.80
H17	4501 kc to 32 mc	7.95
H17	3579.545 kc (color TV)	4.80

Footnotes

(1) — Finish Tolerance + or − .01%
(2) — Finish Tolerance + or − .005%
(3) — Tolerance depends on specifications

JK FREQUENCY STANDARDS

FS-344	Frequency Standard	79.50
FS-344A	Temperature Controlled Frequency Standard	129.50

JK FREQUENCY AND MODULATION MONITORS
25 mc to 175 mc

FD-12	Equipped for operation on any single frequency	425.00
FD-12	Equipped for operation on any two frequencies	465.00
FD-12	Equipped for operation on any three frequencies	505.00
FD-12	Equipped for operation on any four frequencies	545.00

AM BROADCAST CRYSTALS

Regrind Service, all types — 500 kc to 1600 kc ..... (time and material)

DIATHERMY AND MODEL CONTROL CRYSTALS

H17	27255 kc, + or − .03%	4.95
H17L	27255 kc, + or − .03%	4.95
H17W	27255 kc, + or − .03%	4.95

JK PRODUCTS

The JAMES KNIGHTS Co.

Manufacturers and Designers

SANDWICH, ILLINOIS

Catalogs Available on Request

CRYSTALS MADE ON SPECIAL ORDER TO MEET ALL SPECIFICATIONS

Quotations on Request

TERMS — Net 30 Days — F.O.B. Sandwich, Illinois

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Engineering Bulletin # 19.
32656

THE JAMES KNIGHTS COMPANY
Sandwich, Illinois

JK Glasline G-7 & G-7J
Crystal Units

The James Knights Company, in the new G-7 and G-7J crystal units, offers a wide frequency range in one holder type with the well known advantages of evacuated glass holders. These advantages include high Q, lower series resistance, protection from external contamination, and thermal isolation, with resulting better stability, both short and long term.

To your production employess a crystal in metal may be "only a piece of tin", but a crystal in glass will be accorded the care and respect due the precision jewel it really is.

This is a new precision series of crystal units. General performance will be better than that required by typical military specifications. Calibration tolerances can be very tight; as close as ± (1 cps ÷ .0001%) can be held at slight extra cost. A very high degree of secular stability can be attained with special pre-aging processes with extended delivery and additional cost.

Frequencies from 1000 cps to 100 mc are available. The G-7 and G-7J plug into the widely used 9 pin miniature socket (as used by tubes such as the 12AT7).

The James Knights Company highly stable JK09 crystal oven series includes the JK09T4 which will hold one of the G-7 or G-7J crystal units.

Design variations for your special requirements may be available. Discuss your needs with a James Knights Company engineer.

Base: Small button novol 9 pin

Envelope: T 6 1/2 7/8" dia.

Frequency range: 1000 cps to 100 mc

THE JAMES KNIGHTS COMPANY
SANDWICH, ILLINOIS

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